

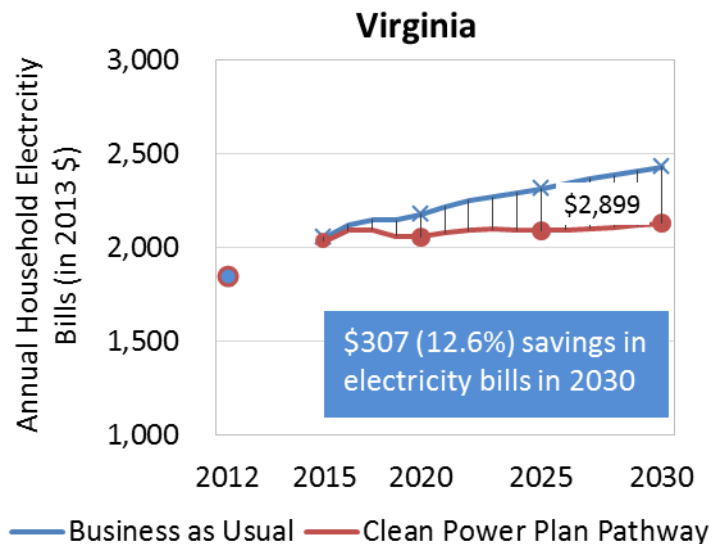
The Clean Power Plan and Beyond: Impacts on Household Energy Bills in Virginia

In August 2015, President Obama and the U.S. Environmental Protection Agency announced the Clean Power Plan, an historic step aimed at reducing carbon pollution by placing federal limits on carbon emissions from existing power plants. The Clean Power Plan establishes carbon pollution goals for each state, and is projected to achieve a 32 percent cut in U.S. carbon pollution from power plants by 2030 compared with 2005.

The Clean Power Plan gives states considerable flexibility to design their compliance plans, taking into account their unique circumstances and priorities. As a result, stakeholders are considering how to optimize state plans. Some forward-thinking states are also examining ways of going beyond the Clean Power Plan, recognizing the need for deeper carbon reductions.

[A June 2016 report](#) by the Georgia Institute of Technology examines two key questions about the Clean Power Plan:

- How can states reduce carbon pollution in the most cost-effective way?
- What is the effect of different compliance options on energy bills?



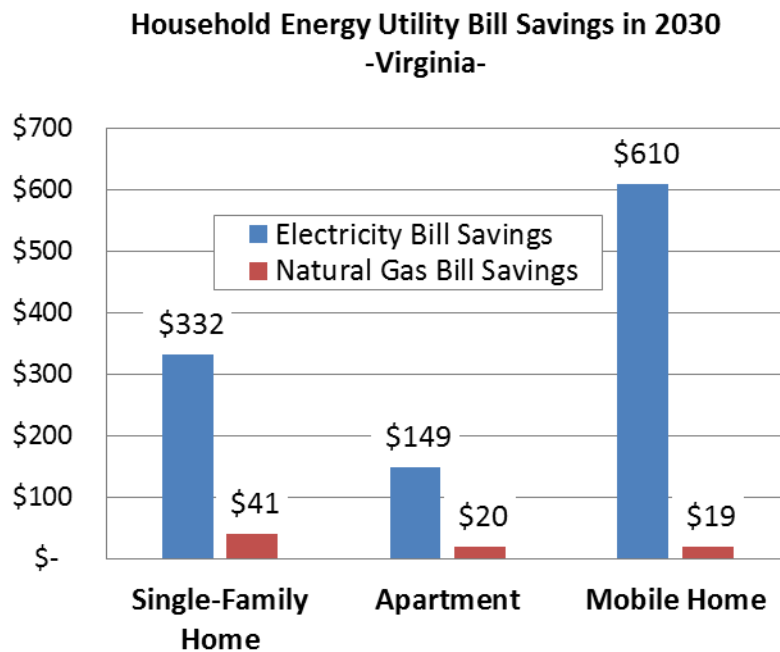
Georgia Tech evaluated a range of carbon-reduction approaches available to states – including increased reliance on natural gas, renewable energy, and energy-efficiency. It concluded that the least-cost pathway would set carbon-reduction goals for both existing and new power plants, and would motivate households to purchase more efficient air conditioning units, appliances, lighting, and other equipment, as well as improved building shells.

The Georgia Tech analysis found that:

- The average Virginia household could cut its electricity bill in 2030 by \$307 (or 12.6%) and could save a total of \$2,899 over the next 15 years, if the Clean Power Plan pathway described above were adopted.¹² (See figure above.)
- Across all of Virginia's households over the next 15 years, this would represent a cumulative electricity bill savings of \$9.9 billion.

¹² All savings are in \$2013.

- Energy bill savings are expected to be greatest for single-family homes, but occupants of apartments and mobile homes would save as well. (See figure below.) In addition, natural gas bills would be lower.
- In contrast, the current trajectory would cause the electricity bills of a typical Virginia household to rise by about 19% over the next 15 years.
- If policy makers adopt the least-cost clean power pathway, Virginia’s household electricity bills would increase very little, if at all, while its CO₂ emissions would be cut significantly.



The Georgia Tech report underscores the positive role that energy efficiency could play in meeting the Clean Power Plan goals. Energy efficiency offers multiple benefits.

- It reduces CO₂ emission by allowing more coal to be retired and less new natural gas capacity to be built because future demand growth is curbed.
- If CO₂ emission limits are only applied to existing units, energy efficiency can strengthen the environmental integrity of the regulations by plugging the “leakage” that would occur when new gas plants are built in order to run existing power plants less.
- Energy efficiency makes the transformation to clean power more affordable to consumers.
- Looking beyond the Clean Power Plan, energy efficiency avoids additional natural gas lock-in and a legacy of missed opportunities heading into the mid-century.

Analysis based on Marilyn Brown, Alexander Smith, and Gyungwon Kim, 2016. [*The Clean Power Plan and Beyond*](#). Georgia Institute of Technology, School of Public Policy Working Paper #89 (June).